Quantum Numbers

- _____
- Used to _____ an _____ in an _____

n

- _____ _____ _____
- Represents _____ energy level of _____

_____ # of _____ in an
_____ _____ = _____

Example: What is the maximum number of electrons that can be in the _____ main energy level?

l

- The _____ _____ _____
- Describes the _____ _____ within an _____ _____
- _____ of orbital _____ possible in _____ _____ = _____

Orbital Shapes

designated _____

- level 1: _____
- level 2: _____
- level 3: _____
- level 4: _____

How many electrons can each sublevel hold?

s = 1 orbital x 2 e^-/orbital = _____e^-
p = 3 orbitals x 2 e^-/orbital = _____e^-
d = 5 orbitals x 2 e^-/orbital = _____e^-
f = 7 orbitals x 2 e^-/orbital = _____e^-

m

- The _____ _____ _____
- describes _____ of _____ in _____

s

- The _____ _____ _____
- describes _____ of _____ in _____

Ground State: _____ energy arrangement of _____

Diagonal Rule

Examples—

hydrogen _____ *lithium*_____

nitrogen _____

Orbital Notation

Examples—

hydrogen

nitrogen

Hund's Rule:

_____ of _____ _____ are each _____ by one _____ before any _____ is occupied by a _____ _____.

Pauli Exclusion Principle:

No two _____ in the _____ _____ can have the _____ _____ of _____ _____ _____.

The Chemistry Quiz

CR1._____ CR2._____ 1._____ 2._____

3._____ 4._____ 5._____